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14 April 1955

MEMORANDUM FOR: THE RECORD

SUBJECT : Use of Infrared for Piloting Aircraft

1. Time and Place of Meeting: USMC Headquarters, Washington, on 8 April 1955 at 10:30 a.m.

2. Attendance:

Major William MacLeod, USMC

3. Discussion:

a. [] asked Major MacLeod what his visual requirements were for flying a helicopter at night. Major MacLeod briefly outlined them. For flying, five seconds warning on obstacles is sufficient. Cruising speed is 85 knots or approximately 150 ft./second or 750 feet visible. For landing, depth perception is necessary and 50 feet is considered to be sufficient. [] asked how much electrical power was available and was asked how much was needed. Answer - up to 2500 watts at 24 to 28 volts.

b. The truck drivers infrared binoculars were demonstrated and Major MacLeod's reaction was "I can do it".

c. [] asked what paperwork would be necessary for preliminary testing and was told none as far as USMC was concerned; however, if results warrant, a project should be set up.

d. Major MacLeod indicated that Quantico, Virginia would be the desired location of preliminary tests and he would make arrangements for permission from the Commanding Officer, etc., to conduct tests and for [] to accompany on same.

e. [] has prepared a request and submitted it through channels for assistance from TSS/APD for equipment and technical advice.

4. Conclusions: The writer has no knowledge of this having been tried with helicopters. ERDL had planned some tests but according to their Night Vision and Equipment Branch these tests fell through.

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USMC pilots are currently flying helicopters at night. It appears that this method could be of some value to them, and it should be possible to interest them in other systems.

5. Recommendations: It is recommended that TSS/APD cooperate with USMC for initial testing.

6. Actions: No action is necessary by TSS/APD until USMC indicates a time and place for the testing.



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